

AMENDMENT AND RESPONSE TO OFFICE ACTION

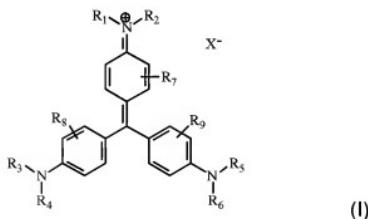
U.S. Patent Application No. 10/300,913

Attorney Docket No. 06028.0030-00000

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Previously Presented) A rapid dyeing process for human keratin fibers, comprising applying to the human keratin fibers at least one dye composition comprising, in a medium suitable for dyeing, at least one direct dye chosen from the following dyes:
 - arylmethane dyes, and
 - methine and azomethine dyes,chosen from
 - the triaminotriphenylmethane compounds of formula (I):



wherein:

R₁, R₂, R₃, R₄, R₅ and R₆, which may be identical or different, are each chosen from a hydrogen atom, C₁-C₄ alkyl groups, C₁-C₄ mono- and polyhydroxyalkyl groups, a phenyl group and a benzyl group, and

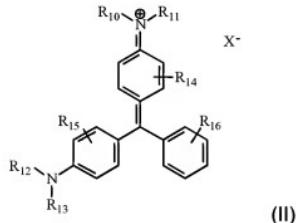
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R₇, R₈ and R₉, which may be identical or different, are each chosen from a hydrogen atom, halogen atoms, and C₁-C₄ alkyl groups;

- the diaminotriphenylmethane compounds of formula (II)



wherein:

R₁₀, R₁₁, R₁₂ and R₁₃, which may be identical or different, are each chosen from a hydrogen atom, C₁-C₄ alkyl groups, and C₁-C₄ mono- and polyhydroxyalkyl groups,

R₁₄ and R₁₅, which may be identical or different, are each chosen from a hydrogen atom, C₁-C₄ alkyl groups, and C₁-C₄ mono- and polyhydroxyalkyl groups, and

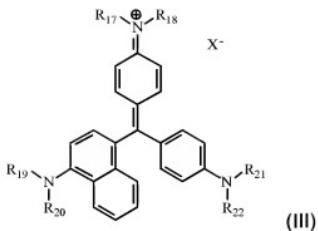
R₁₆ is chosen from a hydrogen atom, halogen atoms, C₁-C₄ alkyl groups, and C₁-C₄ mono- and polyhydroxyalkyl groups;

- the triaminonaphthylidiphenylmethane compounds of formula (III)

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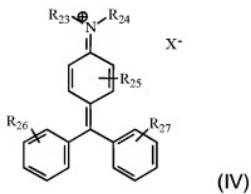
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wherein:

R₁₇, R₁₈, R₂₁ and R₂₂, which may be identical or different, are each chosen from C₁-C₄ alkyl groups and C₁-C₄ mono- and polyhydroxyalkyl groups, and R₁₉ and R₂₀, which may be identical or different, are each chosen from a hydrogen atom, C₁-C₄ alkyl groups, C₁-C₄ mono- and polyhydroxyalkyl groups, a phenyl group, a benzyl group, and a toluyl group;

- the monoaminotriphenylmethane compounds of formula (IV)



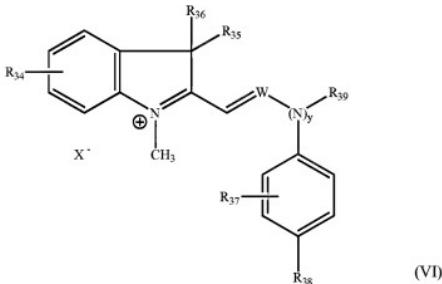
wherein:

R₂₃ and R₂₄, which may be identical or different, are each chosen from a hydrogen atom, C₁-C₄ alkyl groups, C₁-C₄ mono- and polyhydroxyalkyl groups, and a benzyl group, and

R₂₅, R₂₆ and R₂₇, which may be identical or different, are each chosen from a hydrogen atom, halogen atoms, and C₁-C₄ alkyl groups;

and

- the methine and azomethine dyes of formula (VI):



wherein:

R₃₄, R₃₅ and R₃₆, which may be identical or different, are each chosen from a hydrogen atom and C₁-C₄ alkyl groups,

W is a CH group,

y is the integer 0, wherein either W or R₃₉ connects directly to the benzene ring,

R₃₇ is chosen from a hydrogen atom, C₁-C₄ alkyl groups, and C₁-C₄ alkoxy groups,

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R₃₈ is chosen from a hydrogen atom, a methoxy group, groups NR₄₀R₄₁ wherein R₄₀ and R₄₁, which may be identical or different, are each chosen from C₁-C₄ alkyl groups optionally substituted with at least one entity chosen from a chlorine atom and a cyano group, and

R₃₉ is chosen from a hydrogen atom and C₁-C₄ alkyl groups, or forms a heterocycle with the adjacent nitrogen atom and at least one carbon atom of the adjacent benzene ring,

in each of the above formulae (I) - (IV) and (VI), X⁻ is an anion chosen from anions derived from halogen atoms, and HSO₄⁻, methosulphate, benzoate and acetate ions

maintaining the at least one dye composition in contact with said keratin fibers for a leave-in time of less than 5 minutes; and

rinsing the treated keratin fibers,

wherein the resulting coloration has, according to the CIELAB notation, an L* value of less than 40 and a C* value of greater than 20, when the at least one dye composition is applied to natural hair containing 90% white hairs, at a temperature of 27°C±5°C for a period of 4 minutes, for a bath ratio of 10.

2. (Original) The rapid dyeing process according to Claim 1, wherein the human keratin fibers are hair.

3. (Previously Presented) The rapid dyeing process according to Claim 1, wherein the coloration has, according to the CIELAB notation, an L* value of less

than 40 and a C* value of greater than 25, when the at least one dye composition is applied to natural hair containing 90% white hairs, at a temperature of 27°C±5°C for a period of 4 minutes, for a bath ratio of 10.

4. (Cancelled)
5. (Previously Presented) The rapid dyeing process according to Claim 1, wherein in defining R₇, R₈, and R₉ in the formula (I), at least one of the halogen atoms is a chlorine atom.
6. (Previously Presented) The rapid dyeing process according to Claim 1, wherein in defining R₁, R₂, R₃, R₄, R₅, R₆, R₇, R₈, or R₉ in the formula (I), at least one of the C₁-C₄ alkyl groups is chosen from methyl and ethyl groups.
7. (Previously Presented) The rapid dyeing process according to Claim 1, wherein in defining R₁, R₂, R₃, R₄, R₅ and R₆ in the formula (I), the C₁-C₄ mono- and polyhydroxyalkyl groups are chosen from a β-hydroxyethyl group.
8. (Previously Presented) The rapid dyeing process according to Claim 1, wherein in defining R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, or R₁₆ in the formula (II), at least one of the C₁-C₄ alkyl groups is chosen from methyl and ethyl groups.

9. (Previously Presented) The rapid dyeing process according to Claim 1, wherein in defining R₁₀, R₁₁, R₁₂, R₁₃, R₁₄, R₁₅, or R₁₆ in the formula (II), at least one of the C₁-C₄ mono- and polyhydroxyalkyl groups is a β-hydroxyethyl group.
10. (Previously Presented) The rapid dyeing process according to Claim 1, wherein in defining R₁₆ in the formula (II), the halogen atom is a chlorine atom.
11. (Previously Presented) The rapid dyeing process according to Claim 1, wherein in defining R₁₇, R₁₈, R₂₁, and R₂₂ in the formula (III), the C₁-C₄ alkyl groups are chosen from methyl and ethyl groups.
12. (Previously Presented) The rapid dyeing process according to Claim 1, wherein in defining R₁₇, R₁₈, R₁₉, R₂₀, R₂₁, or R₂₂ in the formula (III), at least one of the C₁-C₄ mono- and polyhydroxyalkyl groups is a β-hydroxyethyl group.
13. (Previously Presented) The rapid dyeing process according to Claim 1, wherein in defining R₁₉ and R₂₀ in the formula (III), the C₁-C₄ alkyl groups are chosen from an ethyl group.
14. (Previously Presented) The rapid dyeing process according to Claim 1, wherein in defining R₂₃, R₂₄, R₂₅, R₂₆, or R₂₇ in the formula (IV), at least one of the C₁-C₄ alkyl groups is chosen from methyl and ethyl groups.

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15. (Previously Presented) The rapid dyeing process according to Claim 1, wherein in defining R₂₅, R₂₆, and R₂₇ in the formula (IV), the halogen atom is a chlorine atom.

16. (Cancelled)

17. (Cancelled)

18. (Withdrawn) The rapid dyeing process according to Claim 1, wherein in defining R₃₄, R₃₅, R₃₆, R₃₇, or R₃₉ in the formula (VI), at least one of the C₁-C₄ alkyl groups is chosen from a methyl group.

19. (Withdrawn) The rapid dyeing process according to Claim 1, wherein in defining R₃₇ in the formula (VI), the C₁-C₄ alkoxy groups are chosen from a methoxy group.

20. 47(Withdrawn) The rapid dyeing process according to Claim 1, wherein in defining R₄₀ and R₄₁ in NR₄₀R₄₁ for R₃₈ in the formula (VI), the C₁-C₄ alkyl groups are chosen from methyl, ethyl, and propyl groups.

21. (Cancelled)

22. (Cancelled)

23. (Cancelled)
24. (Original) The rapid dyeing process according to Claim 1, wherein the leave-in time ranges from 1 to 3 minutes.
25. (Original) The rapid dyeing process according to Claim 24, wherein the leave-in time ranges from 1 to 2 minutes.
26. (Original) The rapid dyeing process according to Claim 1, wherein the concentration of the at least one direct dye ranges from 0.001% to 10% by weight, relative to the total weight of the composition.
27. (Original) The rapid dyeing process according to Claim 26, wherein the concentration of the at least one direct dye ranges from 0.05% to 5% by weight, relative to the total weight of the composition.
28. (Original) The rapid dyeing process according to Claim 1, wherein the pH of the composition ranges from 2 to 11.
29. (Original) The rapid dyeing process according to Claim 28, wherein the pH of the composition ranges from 3 to 11.

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30. (Original) The rapid dyeing process according to Claim 1, wherein the application temperature ranges from room temperature to 80°C.

31. (Original) The rapid dyeing process according to Claim 30, wherein the application temperature ranges from room temperature to 60°C.

32. (Original) The rapid dyeing process according to Claim 31, wherein the application temperature is at 27°C±5°C.

33. (Original) The rapid dyeing process according to Claim 1, wherein the at least one dye composition further comprises at least one adjuvant chosen from anionic, cationic, nonionic and amphoteric surfactants, thickening polymers, conditioners, solvents, alkaline agents, and acidic agents.

34. (Original) A rapid stripping process for human keratin fibers, comprising applying to dyed human keratin fibers at least one compound chosen from oxidizing agents and reducing agents with a leave-in time of less than 5 minutes, wherein the dyed human keratin fibers are dyed by a rapid dyeing process, comprising applying to said keratin fibers at least one dye composition comprising, in a medium suitable for dyeing, at least one direct dye chosen from the following dyes:

- arylmethane dyes,
- cationic azo dyes,
- methine and azomethine dyes, and

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- azine dyes,
maintaining the at least one dye composition in contact with said keratin fibers for a leave-in time of less than 5 minutes; and rinsing the treated keratin fibers, wherein the resulting coloration has, according to the CIELAB notation, an L* value of less than 40 and /or a C* value of greater than 20, when the at least one dye composition is applied to natural hair containing 90% white hairs, at a temperature of 27°C±5°C for a period of 4 minutes, for a bath ratio of 10.

35. (Original) The rapid stripping process according to Claim 34, wherein the human keratin fibers are hair.

36. (Original) The rapid stripping process according to Claim 34, wherein the at least one direct dye is chosen from Basic Blue 1, Basic Blue 5, Basic Green 1, Basic Green 4, Basic Red 9, Basic Violet 1, Basic Violet 2, Basic Violet 3, Basic Violet 4, Hofmann's Violet, Opal Blue SS, Basic Orange 21, Basic Red 13, Basic Red 14, Basic Violet 16 and Basic Violet 7.

37. (Original) The rapid stripping process according to Claim 34, wherein the stripping process uses at least one oxidizing agent and is performed at a basic pH.

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38. (Original) The rapid stripping process according to Claim 34, wherein the stripping process uses at least one reducing agent and is performed at an acidic pH.

39. (Original) The rapid stripping process according to Claim 34, wherein the oxidizing agents are chosen from hydrogen peroxide, urea peroxide and persalts.

40. (Previously Presented) The rapid stripping process according to Claim 39, wherein the persalts are chosen from perborates, percarbonates and persulphates.

41. (Original) The rapid stripping process according to Claim 34, wherein the reducing agents are chosen from sulphites, hydrosulphites and sulphinates.